

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

Claims 1-9 (Canceled).

10. (Currently Amended) A sensor element for a gas sensor for determining a concentration of a gas component in a gas mixture, comprising:

a pair of electrodes including a first electrode and a second electrode;

a solid electrolyte that forms, together with the first and second electrodes, a pump cell for the gas component;

a reference electrode provided on the solid electrolyte and exposed to a reference gas;

a porous protective layer for the first electrode,

wherein the first electrode is exposed to the gas mixture via the porous protective layer,

wherein the first electrode forms, together with the reference electrode and the solid electrolyte, a concentration cell, and

wherein the porous protective layer is a coarsely porous diffusion layer; and

a finely porous diffusion layer coated on a surface of the second electrode facing away from the solid electrolyte,

wherein the finely porous diffusion layer is directly exposed to the gas mixture, and

wherein the second electrode functions is configured as a reference electrode of the concentration cell, and

wherein the sensor element does not include a measuring chamber.

11. (Canceled).

12. (Withdrawn) The sensor element as recited in Claim 11, wherein the solid electrolyte is part of a solid electrolyte body, and wherein the first and second electrodes are situated on opposite surfaces of the solid electrolyte body.

13. (Withdrawn) The sensor element as recited in Claim 12, wherein the solid electrolyte body includes a first solid electrolyte sheet and a second solid electrolyte sheet, and wherein the first electrode is situated on the first solid electrolyte sheet and the second electrode is situated on the second solid electrolyte sheet, and wherein between a surface of the first solid electrolyte facing away from the first electrode and a surface of the second solid electrolyte facing away from the second electrode, the first and second solid electrolyte sheets substantially enclose an insulation layer having an integrated electric resistance heater, and wherein the first and second solid electrolyte sheets are interconnected by the insulation layer and a solid electrolyte frame laterally surrounding the insulation layer.

14. (Withdrawn) The sensor element as recited in Claim 13, wherein a solid electrolyte web extending through portions of the insulation layer is provided between the first and second solid electrolyte sheets.

15. (Currently Amended) The sensor element as recited in Claim [[11]] 10, wherein the solid electrolyte is part of a solid electrolyte body that includes a first solid electrolyte layer and a second solid electrolyte layer, and wherein the first electrode and the second electrode are situated on vertically opposite sides of the first solid electrolyte layer, the first solid electrolyte layer being positioned relative to the second solid electrolyte layer in such a way that a clearance exists between the second solid electrolyte layer and the finely porous diffusion layer coated on the surface of the second electrode, and the clearance being exposed to the gas mixture via a gas supply orifice that extends through the first solid electrolyte layer.

16. (Previously Presented) The sensor element as recited in Claim 15, wherein the first solid electrolyte layer is supported by a radial web on the second solid electrolyte layer, in the area of the clearance.

17. (Previously Presented) The sensor element as recited in Claim 16, wherein the radial web is made of a solid electrolyte.

18. (Currently Amended) The sensor element as recited in one of Claim [[11]] 10, wherein the finely porous diffusion layer is made up of a plurality of superposed diffusion layers of different porosities.

19. (Withdrawn) The sensor element as recited in one of Claim 12, wherein the finely porous diffusion layer is made up of a plurality of superposed diffusion layers of different porosities.

20. (Withdrawn) The sensor element as recited in one of Claim 13, wherein the finely porous diffusion layer is made up of a plurality of superposed diffusion layers of different porosities.

21. (Previously Presented) The sensor element as recited in one of Claim 15, wherein the finely porous diffusion layer is made up of a plurality of superposed diffusion layers of different porosities.

22. (Previously Presented) The sensor element as recited in one of Claim 16, wherein the finely porous diffusion layer is made up of a plurality of superposed diffusion layers of different porosities.

23. (New) A sensor element for a gas sensor for determining a concentration of a gas component in a gas mixture, comprising:

a pair of electrodes including a first electrode and a second electrode;

a solid electrolyte that forms, together with the first and second electrodes, a pump cell for the gas component;

a reference electrode provided on the solid electrolyte and exposed to a reference gas;

a porous protective layer for the first electrode,

wherein the first electrode is exposed to the gas mixture via the porous protective layer,

wherein the first electrode forms, together with the reference electrode and the solid electrolyte, a concentration cell, and

wherein the porous protective layer is a coarsely porous diffusion layer; and
a finely porous diffusion layer coated on a surface of the second electrode facing away from the solid electrolyte,

wherein the finely porous diffusion layer is directly exposed to the gas mixture,

U.S. Pat. Appl. Ser. No. 10/571,869
Attorney Docket No. 10191/4215
Reply to Notice of Non-Responsive Amendment of January 21, 2011

wherein the second electrode is configured as a reference electrode of the concentration cell.